



# Sun-Earth Connection:



## A New Perspective



# Main Areas Of Research

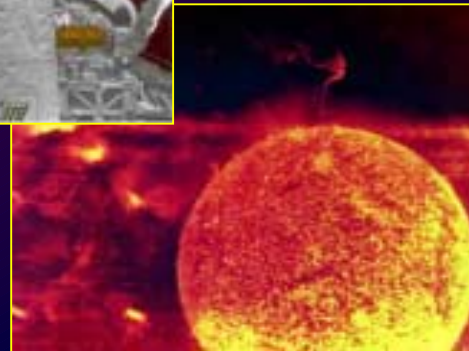
## *Earth Science*



## *Aerospace Technology*



## *Space Science*

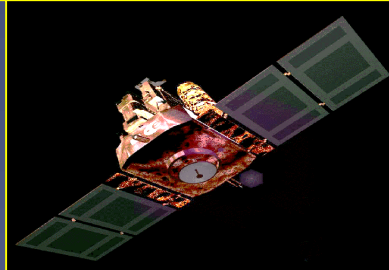


## *Human Exploration And Development Of Space*





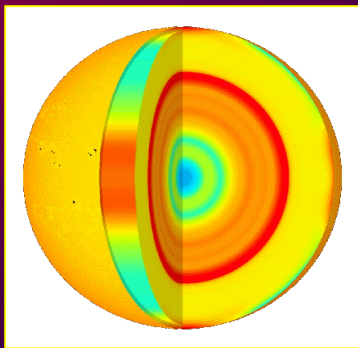
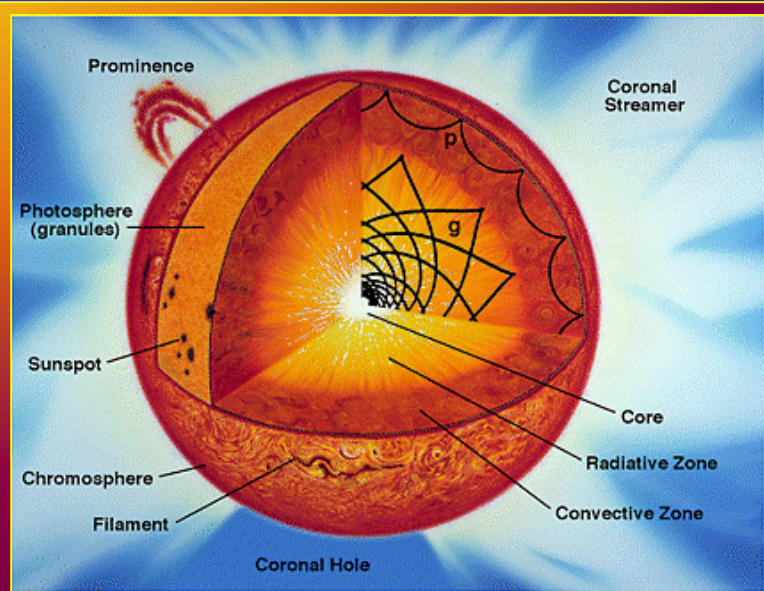
# Importance of Space Technology



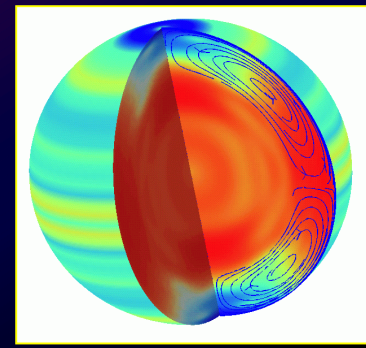
**Better Observation Of The Sun And Earth**



# Sun's Internal Structure



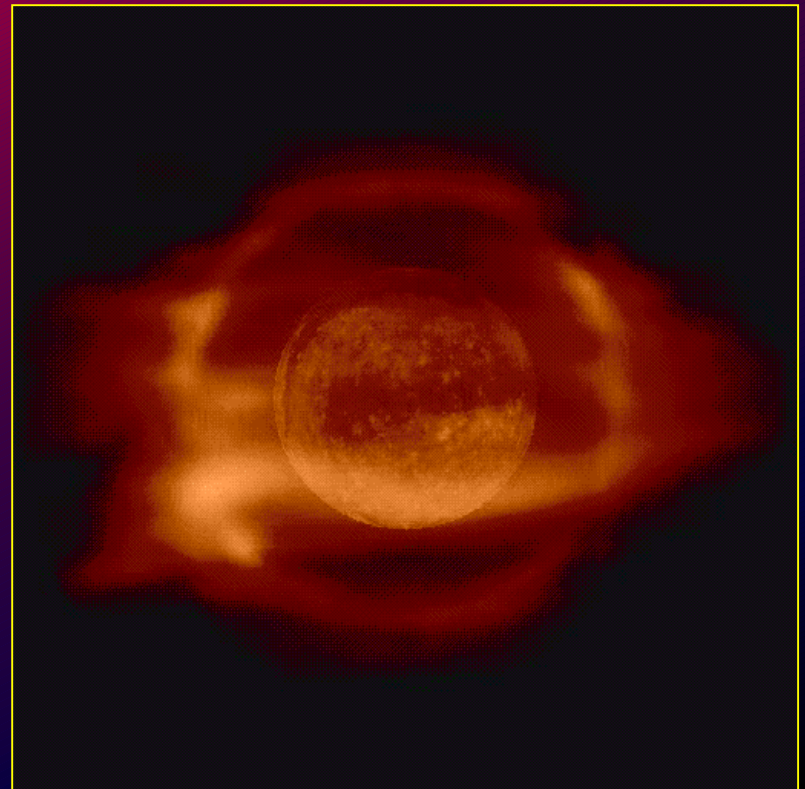
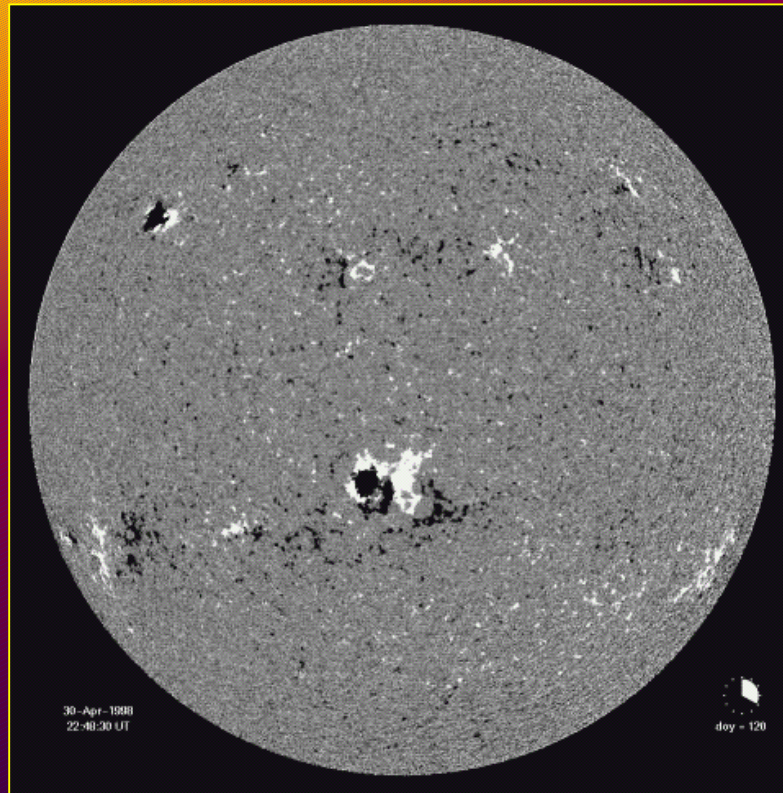
The globes to the left and right represent variations in temperature and rotation of the Sun based on MDI data.







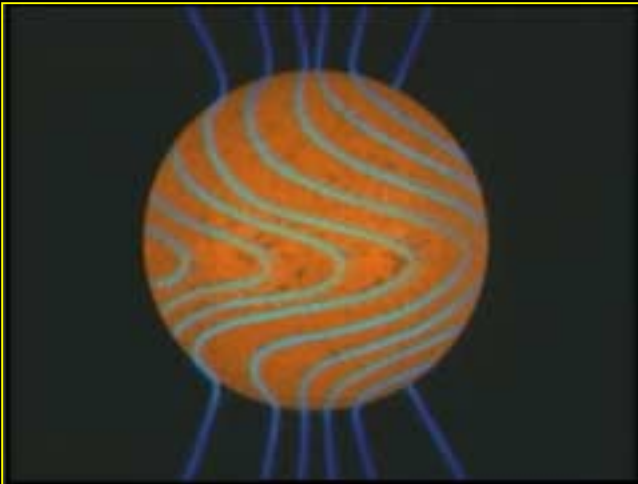
# Surface And Atmosphere Of The Sun



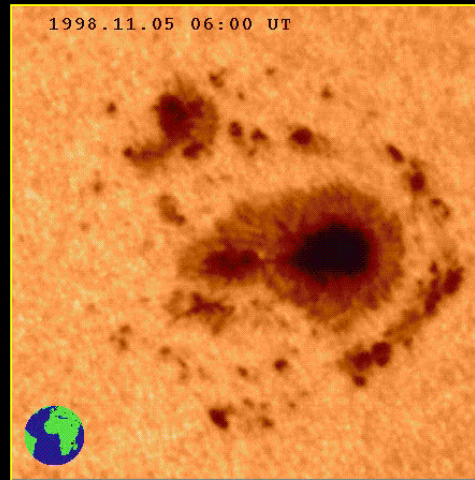


# Sunspots

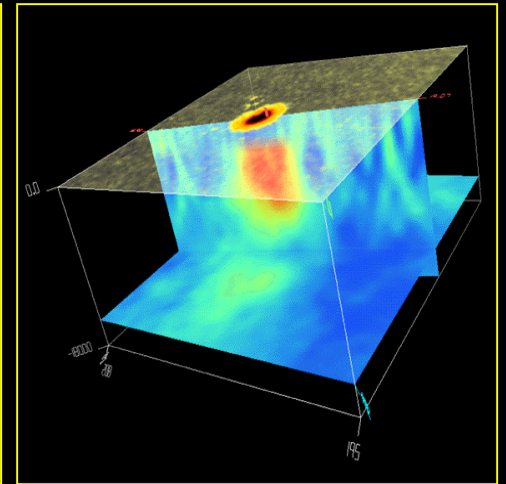
## Sun's Magnetic Field



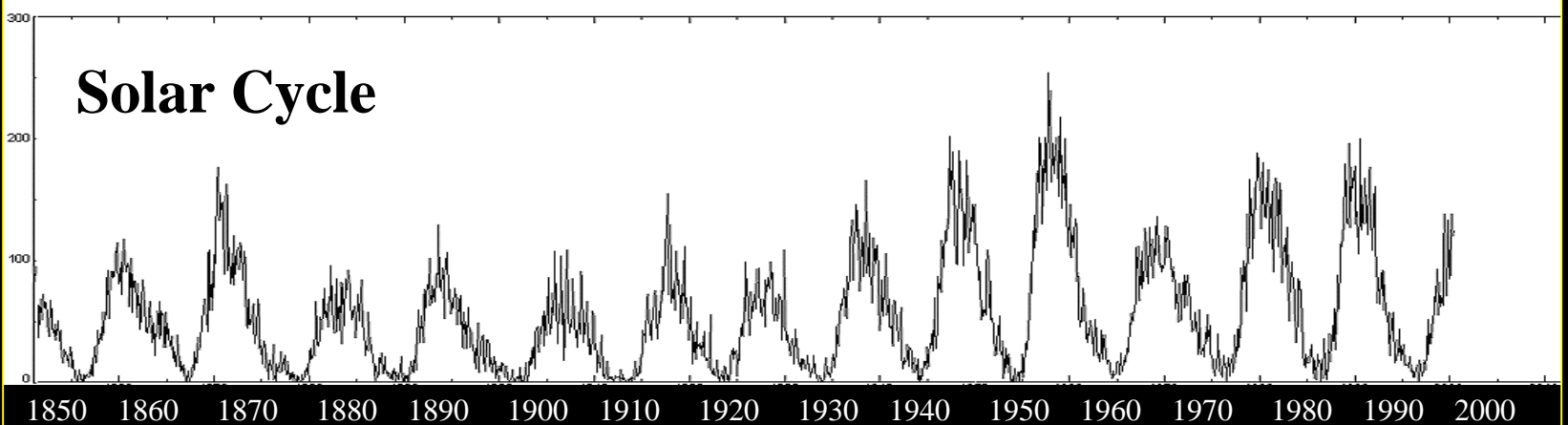
## Sunspots



## Sunspot Structure



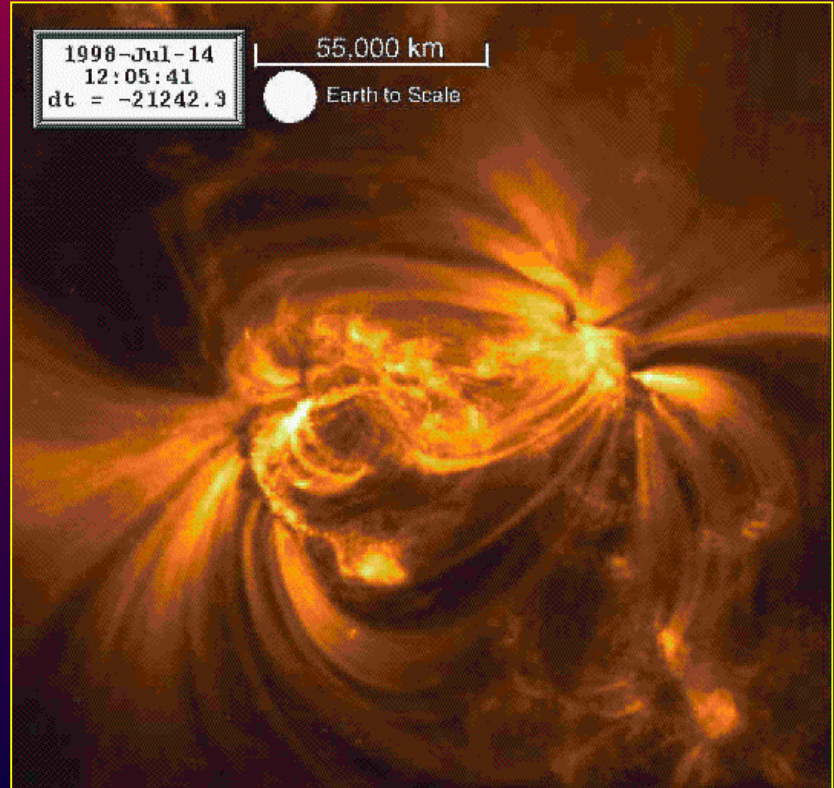
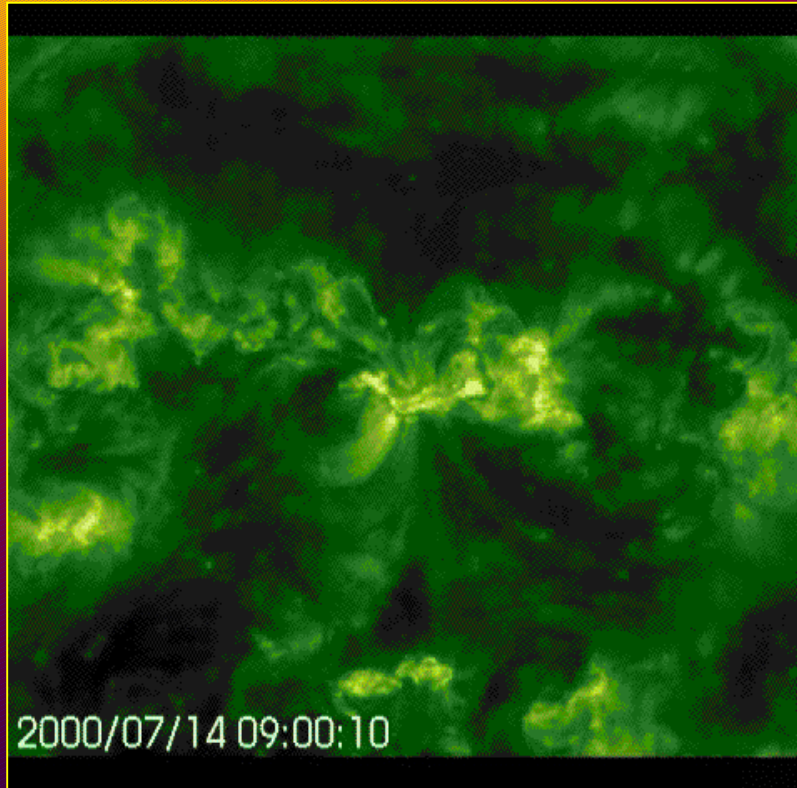
## Solar Cycle





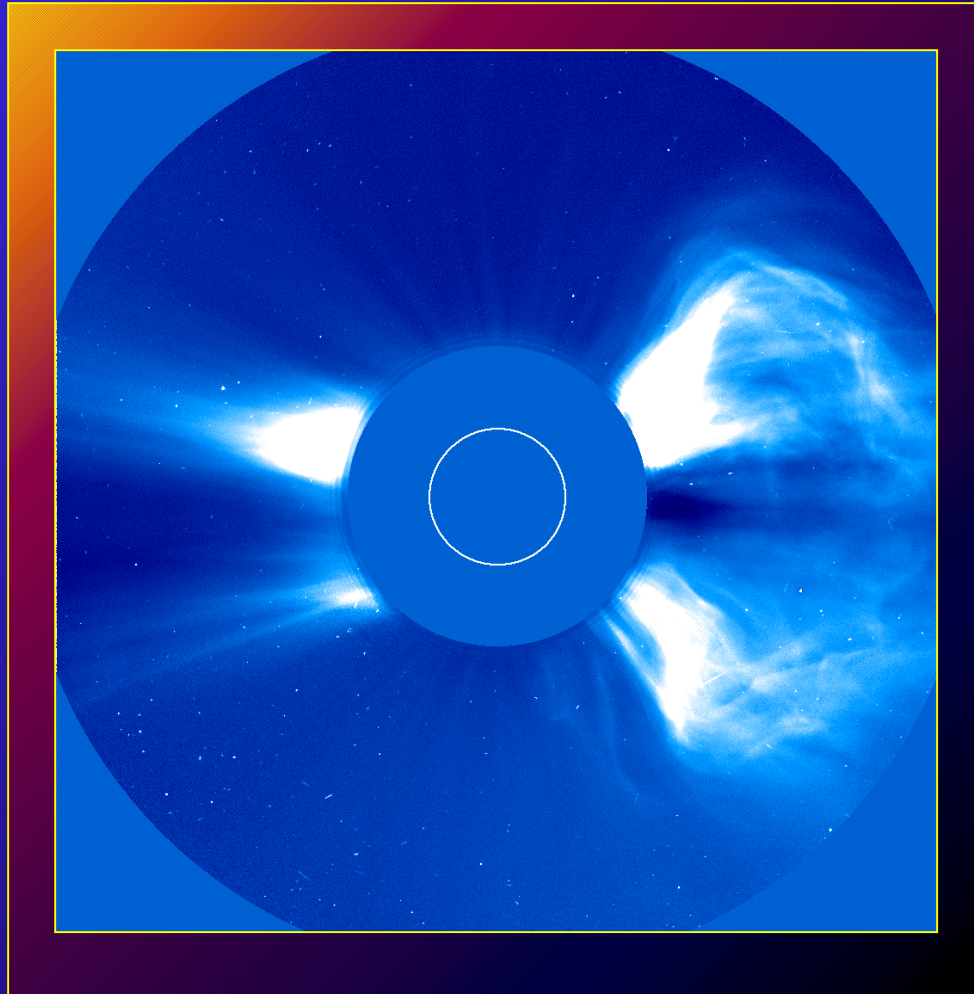


# Solar Flares





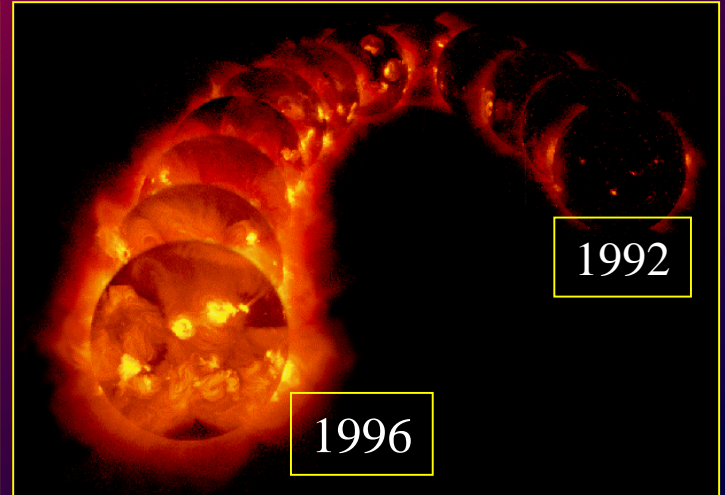
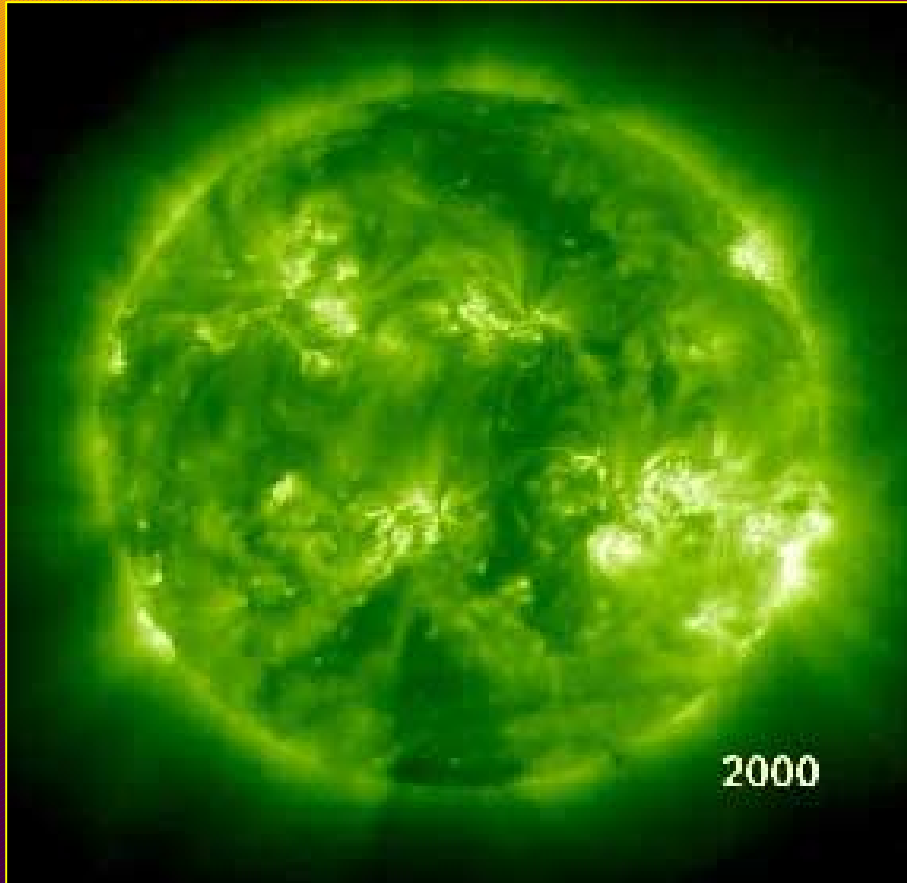
# Coronal Mass Ejections







# Solar Cycles



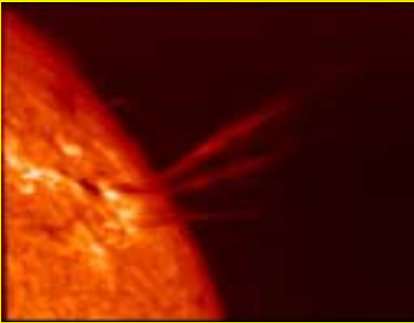
Minimum ▼

Maximum ▼

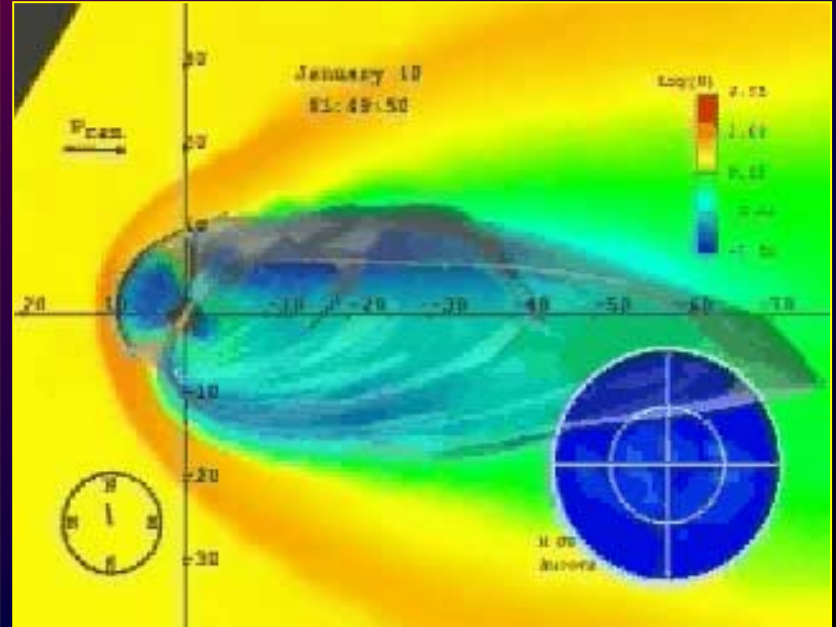
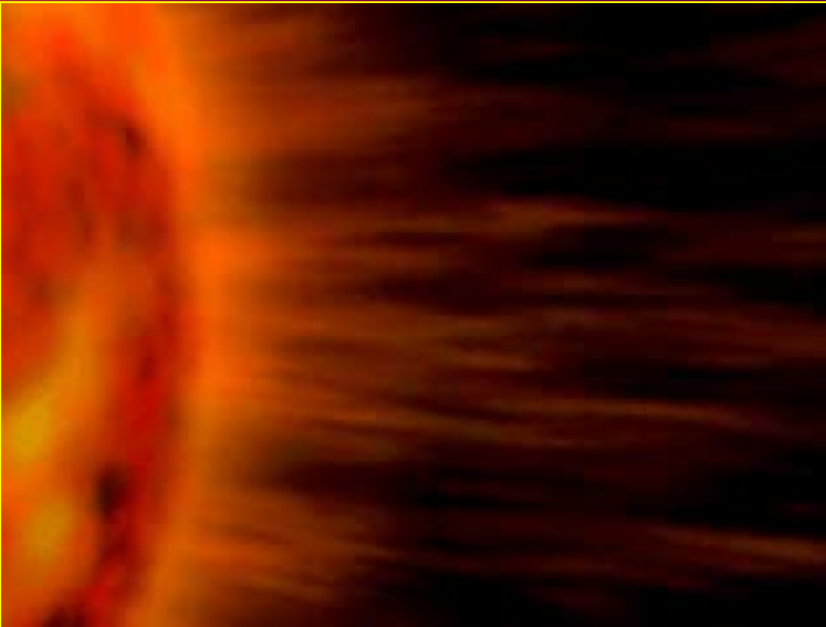
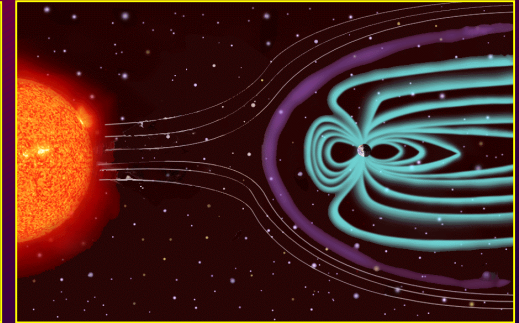




# Solar Wind



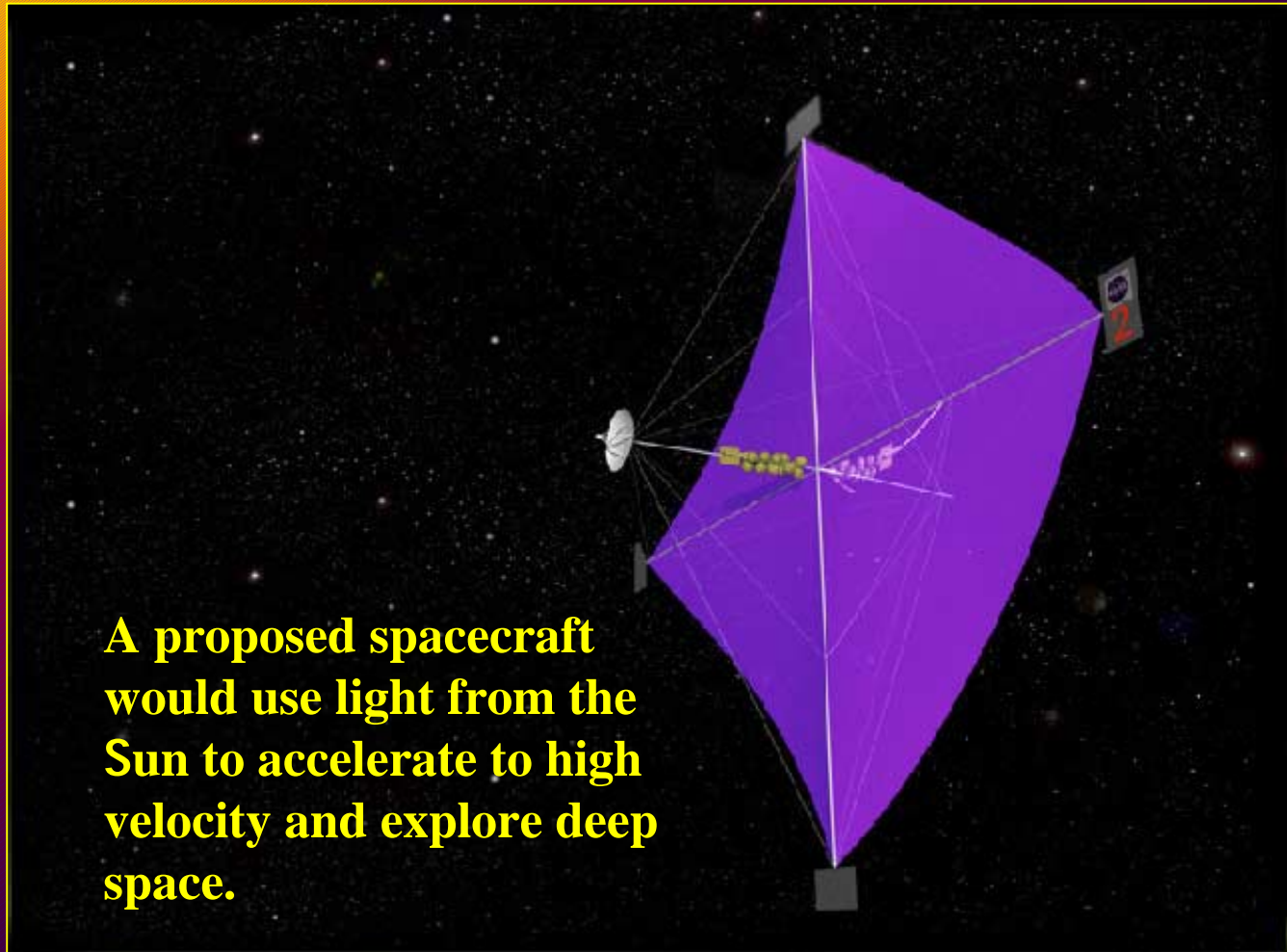
**The solar wind consists of plasma that is continually being released from the Sun.**







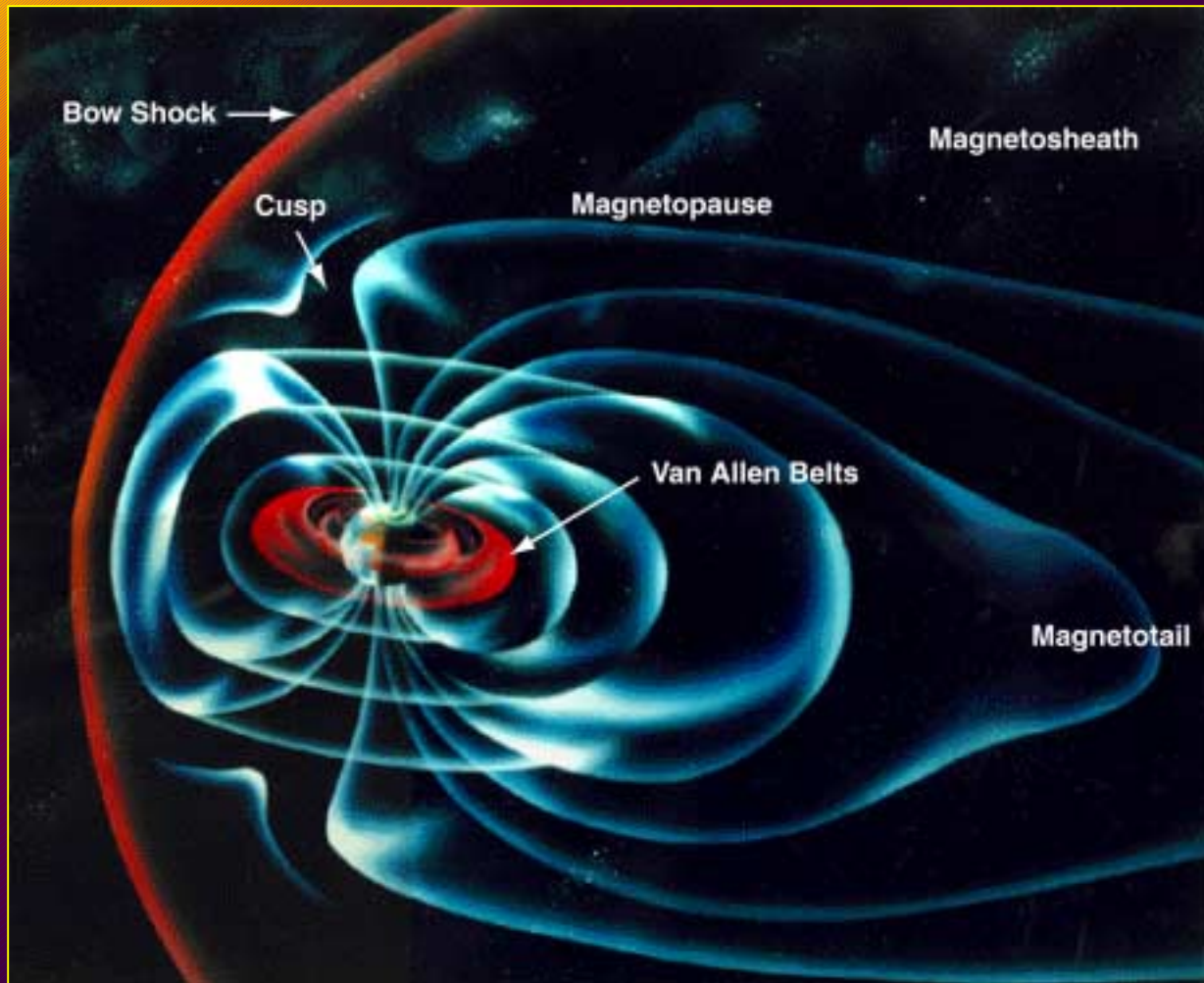
# Solar Sail Interstellar Exploration



**A proposed spacecraft  
would use light from the  
Sun to accelerate to high  
velocity and explore deep  
space.**



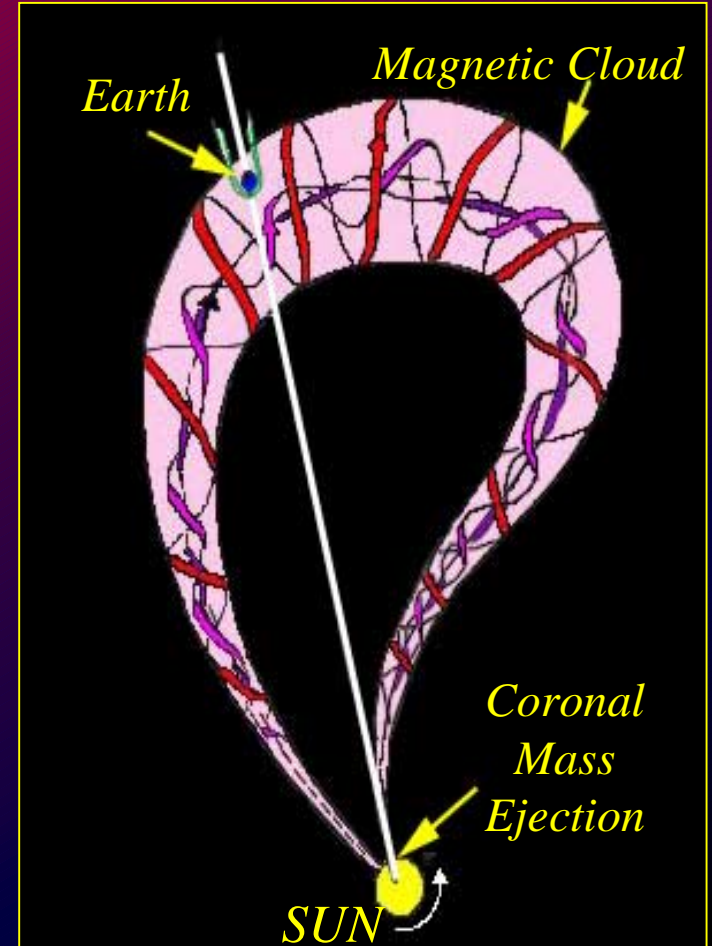
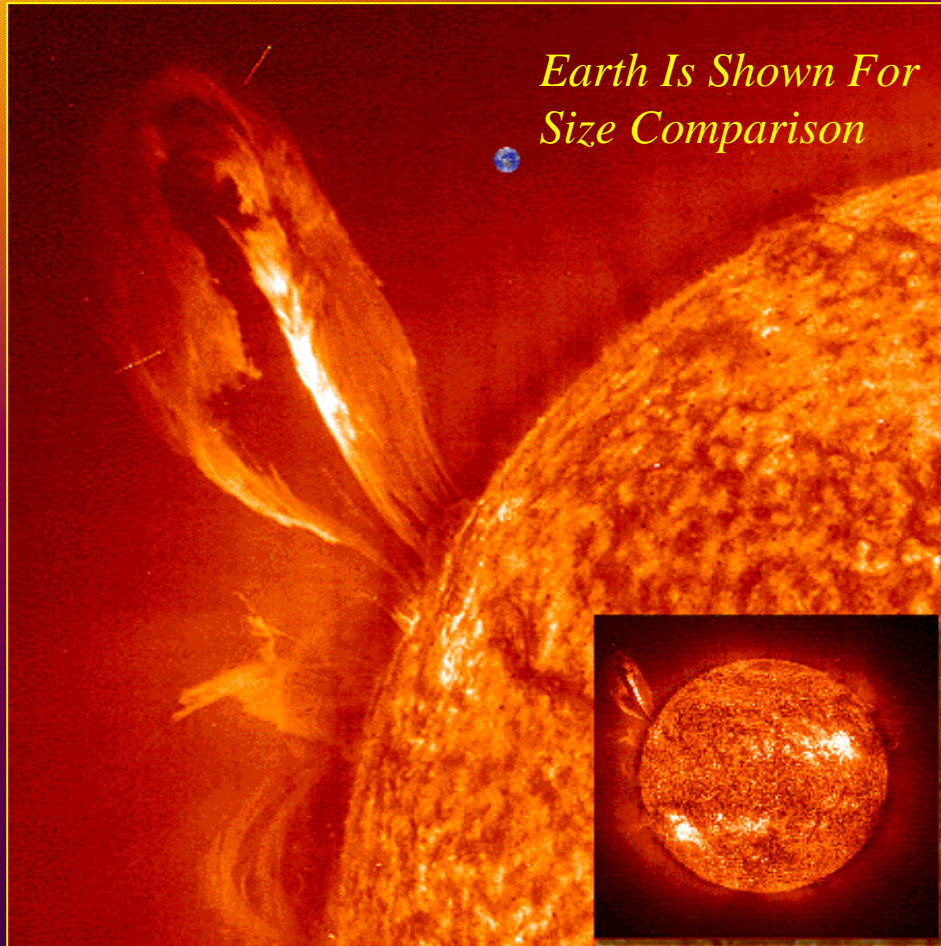
# Earth's Magnetosphere







# Coronal Mass Ejections: Crossing the Earth's Path





# Coronal Mass Ejections: Impact On Earth







# Aurora: Points of View



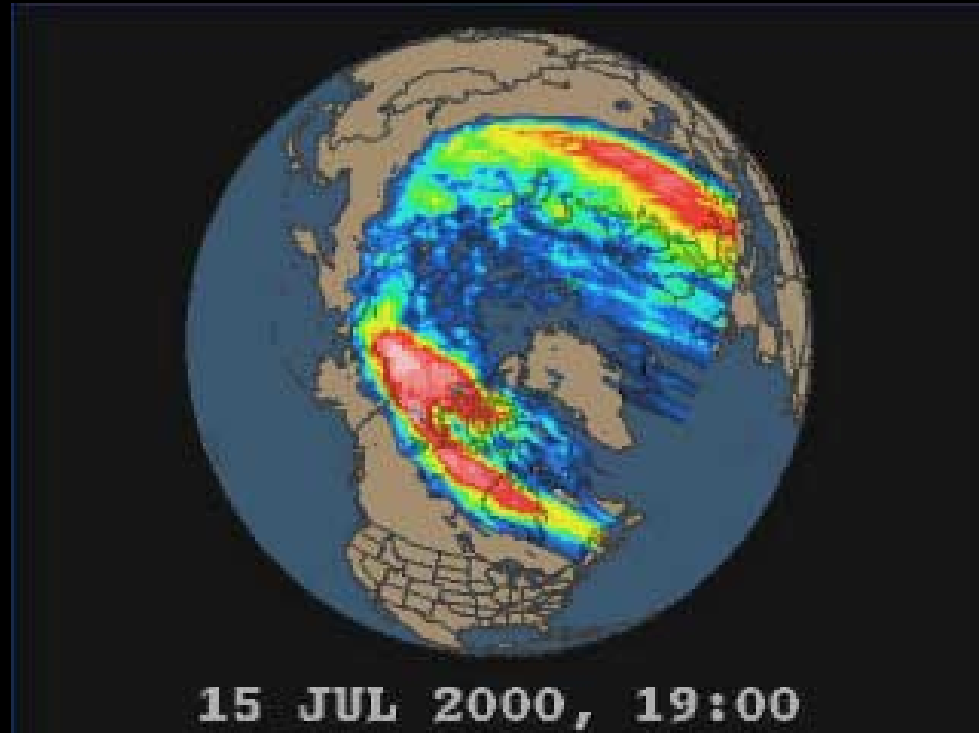
View From Earth



View From Space



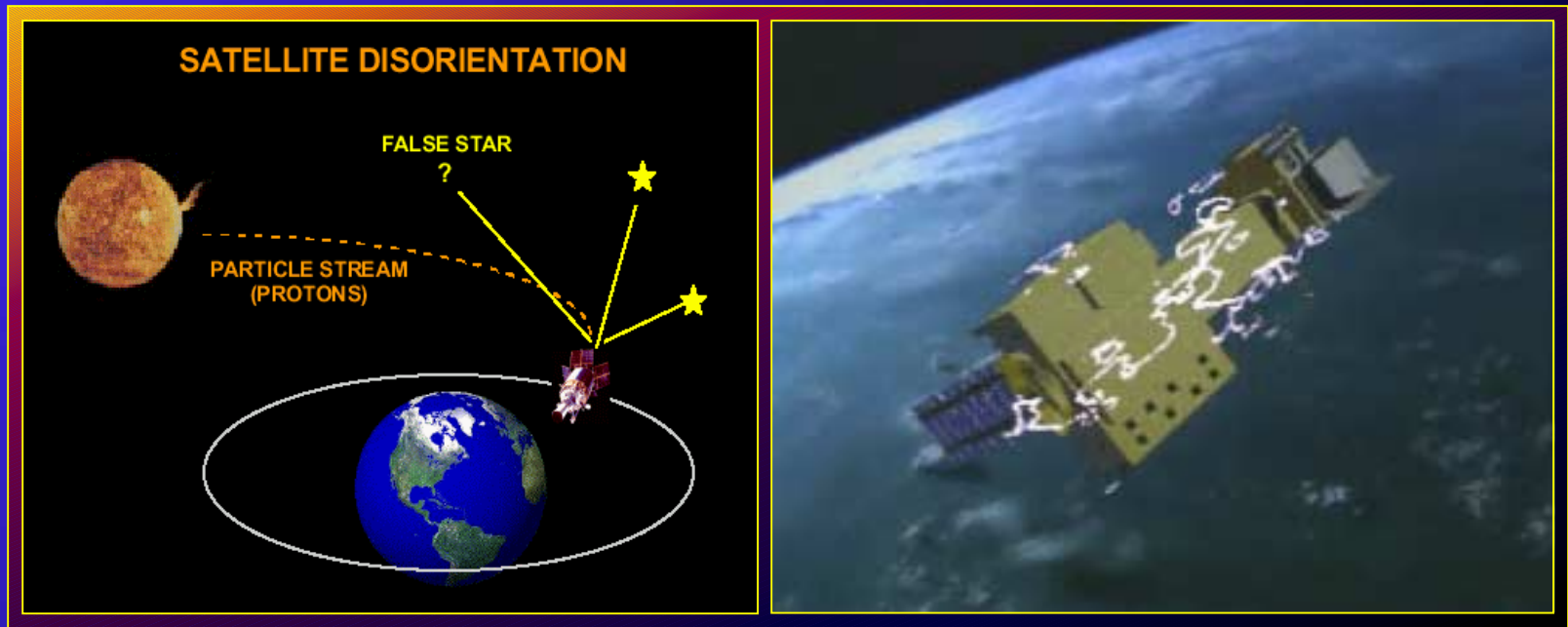
# Aurora: Lights in Motion







# Space Weather : Effects On Orbiting Spacecraft





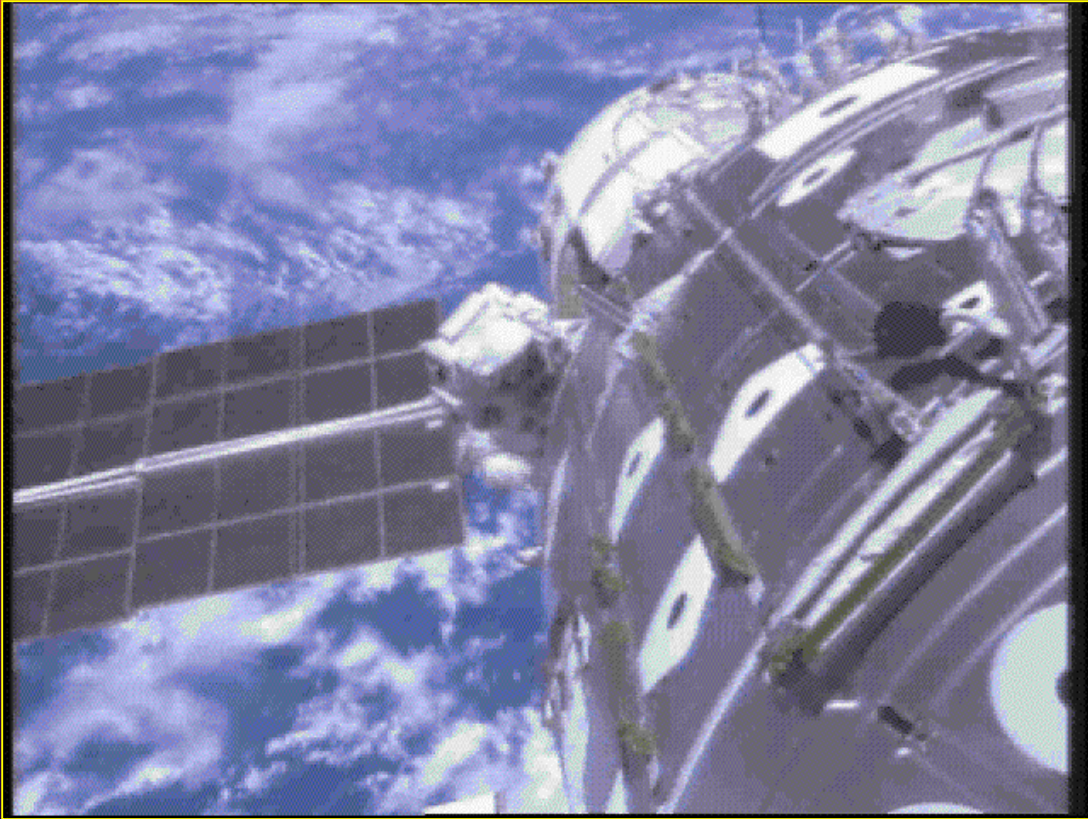
# Space Weather : Effects On Satellite Sensors





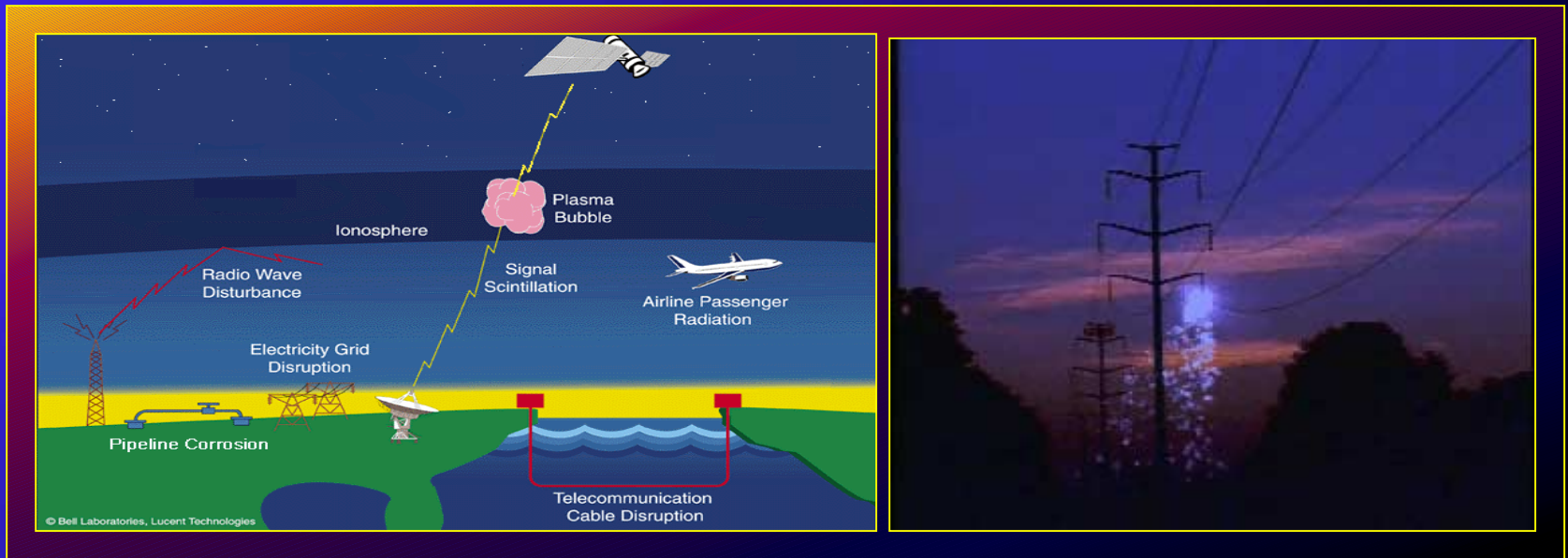


# Solar Storms: Effects on Humans in Space





# Solar Storms: Effects On Societal Systems







# The Sun's Energy: Driver of Earth Weather

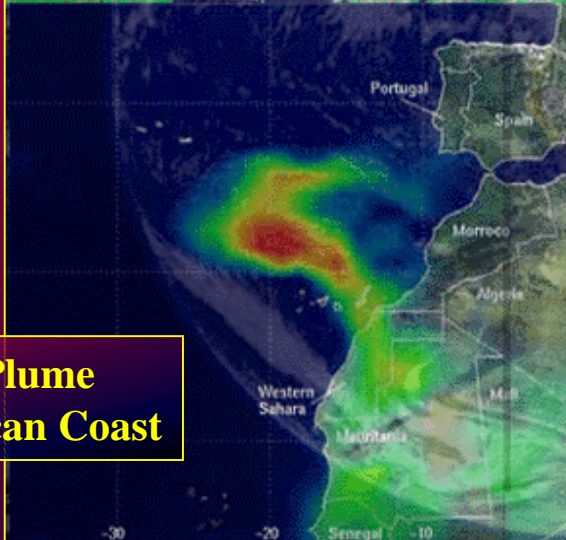
**Water Level In  
The Chesapeake Bay**



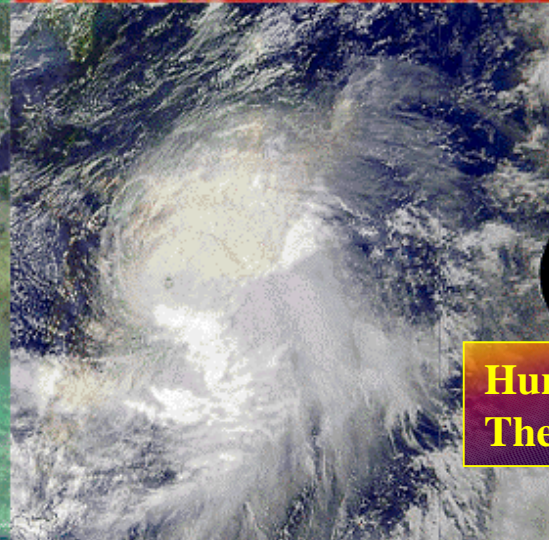
**Infrared Image Of  
Atlanta, Georgia**



**Sahara Dust Plume  
Off The African Coast**



**Hurricane In  
The Atlantic Ocean**





# Sun-Earth Connection

